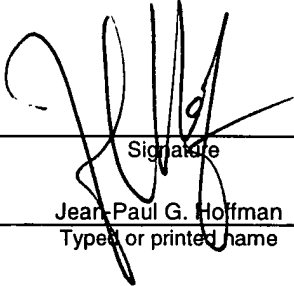




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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 081468-0282980	
	Application Number 09/943,758	Filed September 4, 2001	
	First Named Inventor VADIM YEVGENYEVICH BANINE, et al.		
	Art Unit 2853	Examiner Nguyen, Lam	
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant /inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number 42663</p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34.</p> <p> _____ Signature Jean Paul G. Hoffman _____ Typed or printed name</p> <p>703.770.7794 _____ Telephone number</p> <p>July 21, 2008 _____ Date</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input type="checkbox"/> *Total of _____ forms are submitted.</p>			



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

INVENTORS: BANINE et al.

CONFIRMATION NO.: 8495

SERIAL No.: 09/943,758

EXAMINER: Nguyen, Lam

FILING DATE: September 4, 2001

ART UNIT: 2853

FOR: LITHOGRAPHIC PROJECTION APPARATUS, DEVICE  
MANUFACTURING METHOD AND DEVICE MANUFACTURED THEREBY

**Attachment Sheets to  
Pre-Appeal Brief Request for Review**

**Mail Stop AF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Final Office Action dated March 26, 2008 (the "Office Action"), Appellant hereby requests that a panel of examiners formally review the legal and factual basis of the rejections in this application prior to the filing of an appeal brief. This request is being concurrently filed with a Notice of Appeal. For at least the reasons provided below, Appellant asserts that the outstanding rejections are clearly improper based both upon the omission of essential legal elements required to establish a *prima facie* case of novelty and non-obviousness and upon errors in facts.

**APPEALED REJECTION**

Appellant traverses and appeals the rejection of 1) claims 1-12, 15-16 and 18-26 under 35 U.S.C. §103(a) based on European Patent Application Publication No. EP 1020897 A1 to Tanaka et al. ("Tanaka") in view of U.S. Patent No. 6,533,952 to Klebanoff et al. ("Klebanoff"); and 2) claim 13 under 35 U.S.C. §103(a) based on Tanaka, in view of Klebanoff, and further in view of U.S. Patent No. 6,469,785 to Duveneck et al. ("Duveneck").

### APPEALED REJECTION

Regarding claims 1 and 20, Appellant submits, and the Office Action confirms, that Tanaka does not disclose hydrocarbons of any kind. Consequently, Tanaka cannot disclose or teach a protective layer of hydrocarbon as recited in claims.

To overcome the deficiencies of Tanaka, the Office Action alleges that the claimed hydrocarbon layer is disclosed by Klebanoff. However, the cited portions of Klebanoff are silent as to a hydrocarbon layer, film, or any appropriate hydrocarbon layer synonym. Rather, Klebanoff discloses "an oxide film" (e.g., column 5, line 32), "carbon films" (e.g., column 6, line 16), "graphitic carbon film" (e.g., column 5, line 4), or SiO<sub>2</sub> layer (e.g., column 2, line 42), but not a hydrocarbon layer or film. Appellant submits that presence of a hydrocarbon in an atmosphere in contact with a mirror surface in Klebanoff does not necessarily result (as required for inherency - see MPEP § 2112) in hydrocarbon film formation on the mirror surface in Klebanoff. Hydrocarbon film formation is conditioned on a number of factors such as the number of the available hydrocarbon molecules and surface conditions like temperature, surface geometry, surface potential, surface irradiation, impurity present on the surface, etc. The cited portions of Klebanoff are silent as to whether the conditions for hydrocarbon film formation are present. Indeed, the cited portions of Klebanoff explicitly state that "the sticking coefficient for both ethanol and water on a graphitic carbon is very small" (column 5, lines 3-4) meaning that carbon on the surface prevents or limits hydrocarbon adsorption. Moreover, Klebanoff states that ethanol molecules "bound to surface 210 will also be dissociated by the secondary electrons ejected from that surface." Thus, ethanol molecules in Klebanoff will not remain on the surface 210 for any significant amount of time and there is no indication that they will form a layer. Consequently, Appellant submits that the Office Action has not established sufficiently, with proper evidence and a reasoned basis, that the presence of hydrocarbon in Klebanoff necessarily and inherently results in a hydrocarbon layer on a surface.

Further, page 4 of the Office Action alleges "[Klebanoff's disclosure of] '*Prior to exposing surface 210 to incident radiation, a small amount of a hydrocarbon gas that will also bind to surface 210 is admitted to the system*' means that the binding of the hydrocarbon gas to the surface 210 forms a cap layer of hydrocarbon on the surface

*210 before the cap layer is sputtered by the incident radiation. Moreover, because the sputtering will cause the hydrocarbon molecules bound to the surface 210 be dissociated, the thickness of the cap layer of hydrocarbon would not increase substantially over time. In addition, since the pressure gas is maintained at a certain value, the thickness of the hydrocarbon layer would not increase substantially over time due to the increase of the pressure gas), wherein, in use, the layer of hydrocarbon is formed on the mirror by absorption of the gaseous hydrocarbon (column 2, lines 14-16: 'Surface 110 has both hydrocarbon and water molecules adsorbed thereon')"* (emphasis in original). Appellant respectfully traverses this allegation as at least unsupported by the quoted reference.

Firstly, the cited lines 63-65 in column 3 of Klebanoff do not mean that binding of the hydrocarbon gas to the surface 210 necessarily forms a cap layer of hydrocarbon, as alleged on page 4. As discussed above, Klebanoff fails to disclose or teach, expressly or inherently, that a hydrocarbon layer is formed. Indeed, the quoted portion states a "small amount of hydrocarbon" binds to the surface in addition to other materials (e.g., water – see Klebanoff, col. 2, lines 14-16). Thus, there is by no means sufficient disclosure of a hydrocarbon layer in Klebanoff nor does the presence of a small amount of hydrocarbon in Klebanoff necessarily result in a hydrocarbon layer. As further support, Figures 1 and 2 of Klebanoff merely show a single hydrocarbon atom absorbed to the respective surfaces. No person skilled in the art would consider Figures 1 and 2 as showing a layer of hydrocarbon. Further, Klebanoff regularly uses the terms "layer" and "film" but not in association with hydrocarbon; rather, those terms are used in association with graphitic carbon or oxide. Accordingly, there is no disclosure or teaching in the cited portions of Klebanoff of a layer of hydrocarbon; at most, the cited portions of Klebanoff disclose a graphitic carbon or oxide layer.

Secondly, the Office Action alleges that Klebanoff discloses sputtering by incident radiation. However, there is no disclosure or teaching in Klebanoff of sputtering. The well-known technical term "sputtering" involves removing material due to bombardment of the material by energetic ions. Klebanoff merely discloses ejection of secondary electrons from the surface of a material by high energy radiation, such as EUV radiation and discloses dissociation (a chemical process) caused by those

electrons. The Office Action attempts to redefine “sputtering” by alleging it is synonymous with “projecting or radiating the patterned/projection beam on the cap layer”. No person skilled in the art would reasonably consider those as being synonymous in view of the well known technical meaning of “sputtering” or in view of Appellant’s specification. Projecting or radiating a patterned/projection beam need not involve sputtering and sputtering need not involve projecting or radiating a patterned/projection beam. See MPEP §2111 (claims must be given their broadest reasonable interpretation consistent with the specification) and paragraph [0024] of Appellant’s specification (“... a cap layer on a mirror surface can be used to protect the mirror from sputtering damage caused by fast ions and atoms expelled from a plasma source.”). Thus, the cited portions of Klebanoff are simply silent as to sputtering of anything, let alone sputtering of the alleged “hydrocarbon cap layer”.

Thirdly, there is no support in Klebanoff, nor does it necessarily result from Klebanoff, that the thickness of the alleged hydrocarbon layer (which Appellant submits is not disclosed by Klebanoff as discussed above) does not increase substantially over time due to the alleged sputtering (which Appellant submits is not disclosed by Klebanoff as discussed above) in Klebanoff. There is simply no disclosure of the thickness of the hydrocarbon in Klebanoff, let alone of any mechanism, sputtering or otherwise, that limits its increase over time. There is only disclosure in Klebanoff of the thickness of a graphite carbon film. See Klebanoff, col. 5, lines 2-6.

Fourthly, the allegation that “since the pressure gas is maintained at a certain value, the thickness of the hydrocarbon layer would not increase substantially over time due to the increase of the pressure gas” is not supported by the cited portions of Klebanoff. All pressures and partial pressures disclosed by Klebanoff are filling pressures. Klebanoff is silent as to allegation that “the pressure gas is maintained at a certain value.” Moreover, even if the pressure of the gas in Klebanoff were maintained at a certain value, there is simply no disclosure of, nor would it necessarily result, that a constant pressure would ensure that “the thickness of the hydrocarbon layer would not increase substantially over time” as alleged. Indeed, there is no disclosure, nor would it necessarily result, that an increasing pressure would cause increase of the thickness of a hydrocarbon layer.

Regarding claims 10 and 15, as discussed above, the cited portions of Tanaka are silent as to any hydrocarbon (including alcohol). Further, for similar as reasons as discussed above, the cited portions of Klebanoff do not disclose or render obvious control of a thickness of a hydrocarbon (alcohol) layer. For example, the cited portions of Klebanoff are silent as to a hydrocarbon layer, let alone its thickness and control thereof. Further, in the context of claim 15, the cited portions of Klebanoff are silent as to sputtering.

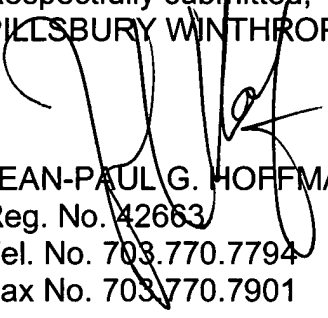
Claims 2-9, 11, 12, 13, 16, 18, 19 and 21-26 depend from claims 1, 10, 15 and 20 respectively and are, therefore, patentable for at least the same reasons provided above related to claims 1, 10, 15 and 20 respectively, and for the additional features recited therein. Further, with respect to claim 13, Appellant submits that the deficiencies of the cited portions of Tanaka and Klebanoff are not remedied by the cited portions of Duveneck. The cited portions of Duveneck merely disclose a 40 layer high efficiency mirror.

#### CONCLUSION

Therefore, it is respectfully requested that the panel return a decision concurring with Appellant's position and eliminating the need to file an appeal brief because there are clear legal and/or factual deficiencies in the appealed rejections.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,  
PILLSBURY WINTHROP SHAW PITTMAN LLP

  
JEAN-PAUL G. HOFFMAN  
Reg. No. 42663  
Tel. No. 703.770.7794  
Fax No. 703.770.7901

Date: July 21, 2008  
P.O. Box 10500  
McLean, VA 22102